

## It is easy to become an author in scientific journals now but, what are the implications?

“Publish or perish” is a well-known slogan in academia. Today, research and publications are not the exclusive domain of a few elite institutions but have percolated to all teaching and non-teaching institutions. In India, faculty promotions have been linked to publications.<sup>[1]</sup> Even among the residents, there is an increasing pressure to publish their thesis. There is a constant lament that research and publications are “weak” in Asian countries.<sup>[2]</sup> While discussing with my colleagues and also on reading the comments in various social media groups, I have realized that, apparently, getting published in an “indexed journal” is difficult.<sup>[3]</sup> There are numerous sites that give hints to potential writers about the tricks of academic publications.<sup>[4,5]</sup>

However, being in this field for about 20 years (my first publication was in the year 2000),<sup>[6]</sup> I feel that getting research published in an indexed journal is not that difficult anymore. I say this based on the following observations. The number of journals has mushroomed in the last 20 years. Today, there are about 30,000 medical journals listed on the PubMed journal list which is updated daily and includes all MEDLINE® titles as well as other non-MEDLINE titles in PubMed.<sup>[7,8]</sup>

In the year 2000, there were only 46 active urology journals (of which 36 were PubMed-indexed); now, there are 94 (these figures have been obtained from NCBI Journal catalog using search word “Urology” and using the filter “Journals referenced in the NCBI DBs”).<sup>[9]</sup> Of these 94 journals, 67 are indexed on PubMed. Hence, the number of PubMed-indexed urology journals has almost doubled in the last 20 years. The first urology journal listed in this database<sup>[9]</sup> is “Family Urology” which started publication in 1905 and stopped publishing in 1997 (this journal was not PubMed indexed). The second journal listed is “Transactions of the American Association of Genito-Urinary Surgeons” that started publication in 1906 and stopped publishing in 1979. Since the year 2000, 64 new urology journals have been launched of which 54 journals are still in publication. This comes to a mind-boggling figure of 3.2 new urology journals launched each year. An additional three new journals were launched in the

year 1999 alone! In the years between 1905 and 2000, it took 95 years to witness the launch of 108 urology journals (of which 46 were active in 2000) but only 20 years to launch 64! A study published in 2015 reported that there were 80 active urology journals indexed in the Scopus database that published a total of 10,181 articles in 2015.<sup>[10]</sup> Hence, the option of journals has increased many folds.

Urology has multiple subspecialties. For example, on using search words, “Andrology” and “Renal transplantation,”<sup>[9]</sup> an additional 22 journals on andrology and 20 new titles on renal transplantation were found.<sup>[9]</sup> Furthermore, a large number of urology articles are published in “general specialty” journals, such as surgery, medicine, oncology, or in procedure-based journals, such as, laparoscopy and minimally invasive surgery. A study evaluated the proportion of specialties represented in the top medicine journals.<sup>[11]</sup> The authors evaluated four journals of medicine, including *the Lancet*, *the New England Journal of Medicine* (NEJM), *the British Medical Journal* (BMJ), and *the Journal of American Medical Association* (JAMA).<sup>[11]</sup> They evaluated all the articles published by these journals in the years 1997, 2002, and 2007. They found that 14,091 articles were published by these journals during those years. The contribution of urology articles was 0.98% in BMJ, 1.05% in JAMA, 1.25% in *the Lancet*, and 1.80% in the NEJM.

The tidal wave of open-access journals has drowned the scientific community. Established publishers, such as, BMJ, Elsevier, Wiley, and Sage, have all jumped on this bandwagon, not wanting to lose the lucrative medical publishing market.<sup>[12,13]</sup> As of March 2016, the Directory of Open-Access Journals, that is a recognized indexing resource for open-access journals, added a phenomenal six journal titles every day.<sup>[14]</sup> A study by AlRyalat *et al.* evaluated the number and quality of urology open-access journals published between 2011 and 2018.<sup>[15]</sup> The authors noted that urology journals increased from 66 in 2011 to 99 in 2018. The increase was more in the number of open-access urology journals that increased from only 10 (15.2%) in 2011 to 33 (33.3%) in 2018.

Journal publishing is a lucrative business.<sup>[13,16]</sup> If there is a demand for more journal space to get the research published, the publisher is very happy to launch a new

journal. Apparently, it is the need to get published that is driving the publishing industry rather than the need to benefit mankind. In fact, it is often lamented that the quality of most research today is poor and whether so many journals are actually needed.<sup>[16-20]</sup> Even in top urology journals, the quality of publications has been questioned.<sup>[21]</sup> MacDonald *et al.* evaluated the quality of systematic reviews published in four major urology journals, including, *the Journal of Urology*, *European Urology*, *Urology*, and *BJU International* published between 1998 and 2008.<sup>[21]</sup> The authors concluded, “many systematic reviews fail to meet established methodological standards, raising concerns about validity.”

The publication criteria are becoming less stringent. Previously, there was a lot of emphasis on originality and innovation. Now, this is not true. The instructions to the authors mentioned on the website of the journal, *Medicine*, state, “The *Medicine*® review process emphasizes the scientific, technical and ethical validity of submissions. Novelty or potential for impact are not considered during the manuscript’s evaluation or adjudication.”<sup>[22]</sup> Editors and publishers have started seeing merit in replication studies. At one time, one of the most common reasons for rejection was “there is nothing new in this article.” This no longer holds true!<sup>[23-27]</sup>

It is a belief that the peer review system has weakened, especially, in open-access journals.<sup>[12,28,29]</sup> Peer reviewers are hard to find. Ideally, each article submitted should undergo peer review by at least two experts. However, it is hard to get timely reviews.<sup>[30-32]</sup> Although many journals claim to get two reviews, I have sincere doubts about the truthfulness of this number. It is easier to get published in open-access journals. Even if the manuscript is weak, the chances of acceptance are high. Crowe and Carlyle found that the quality of manuscripts was inferior in open-access journals as compared to those of standard journals for the same subject.<sup>[33]</sup> This holds true for urology as well.<sup>[15]</sup>

Another interesting development has been an increase in the number of authors for each article. Single-author articles are rare today.<sup>[34-36]</sup> An *et al.* counted the number of authors for all original research articles and review articles published in *European Urology*, *the Journal of Urology*, *Urology*, and *BJU International* from January 2006 to December 2016.<sup>[36]</sup> The authors noted that for original articles the authorship count increased by an average of 2.45 authors (43.5%). Similarly, in review articles, the authorship increased by 3.14 authors (92.6% increase). Although there are many genuine reasons for this authorship inflation (increasing complexity of research, increase in collaborative and multicenter studies,

etc.), one probable reason is gift authorship. In fact, another research has shown that much of this increase in the number of authors cannot be explained by the increased complexity of articles or an increase in the number of collaborative and multicenter studies.<sup>[34]</sup> To overcome this problem, the International Committee of Medical Journal Editors issued guidelines as to who can be an author.<sup>[37]</sup>

The knowledge in paper-writing skills is much better known and understood. With Google searches, a potential author can assess a huge amount of information on how to write scientific articles. A number of journal websites provide guidance on paper writing. Guidelines, like the EQUATOR network, with checkboxes to ensure completeness, not only help in writing papers but also in planning the study.<sup>[38]</sup> With a large number of top-quality webinars and meetings being held frequently, a potential author gets to know the secrets of paper writing.<sup>[39]</sup> Most major scientific meetings have sessions on research methodology and paper writing, including the Urological Society of India.

Access to the scientific literature was very difficult before 2000, mostly through print journals. As the journal subscriptions were costly, they were available in only a few libraries. With the Internet boom, and open-access options, getting the desired articles is not difficult anymore. Furthermore, the funding options for scientific research have increased and have become more democratized.<sup>[40]</sup> Now, many digital tools are available that help in the writing of the manuscript. All these developments have helped researchers in increasing their publication output.

What does this trend tell us? What are the implications? We need to understand the purpose of publications and journals.<sup>[16]</sup> Journals play an important role in the progress of knowledge but also, simultaneously, help in the progress of an individual researcher creating academic hierarchies. With the launch of so many new journals with the philosophy that the author even pays a substantial fee for her/his own publication (USD 4000 for PLOS Medicine),<sup>[41]</sup> then this is surely not science. The system is now exploiting the researcher who is desperate for publication. Conventionally, the guiding principle to judge the worth of faculty is the number of publications. Furthermore, an institution is ranked based on research output in the form of publications. In India, All India Institute of Medical Sciences, New Delhi, has been considered the top institute based on these figures.<sup>[42,43]</sup> However, with easy publications, a new matrix has to be designed. At an individual level, people are even questioning whether it is good to have too many

publications.<sup>[44]</sup> While there is no denying the fact that journals and publications are important for the progress of science, my submission is that, today, becoming an author is not difficult.

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